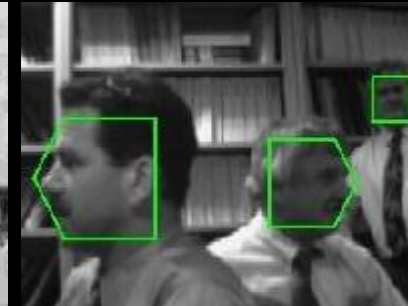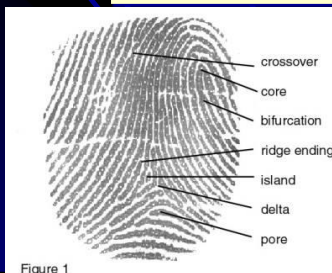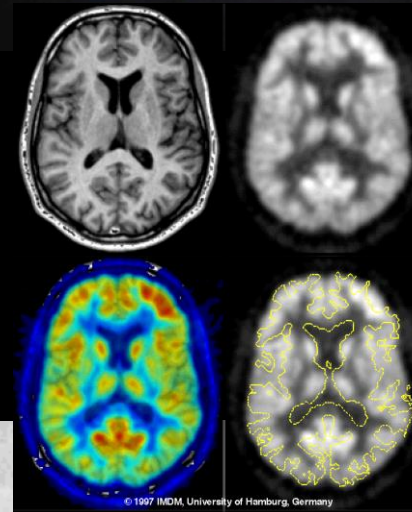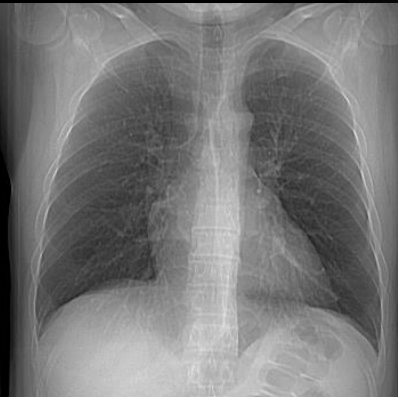# Image Recognition has a wide variety of cool apps

- Robotic control
- Quality control of manufactured parts
- Medical imaging
  - Images from Dr. Walter
- Biometrics
- Photograph analysis
- Surveillance
- Face detection
- Color matching by cell-phone
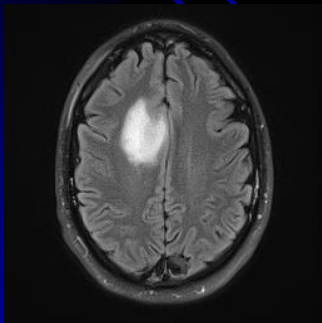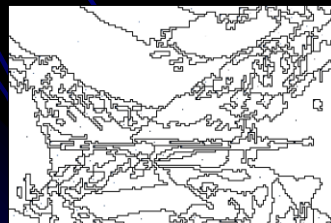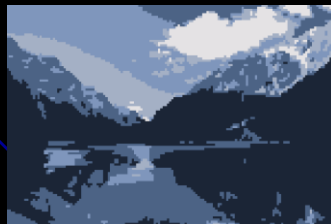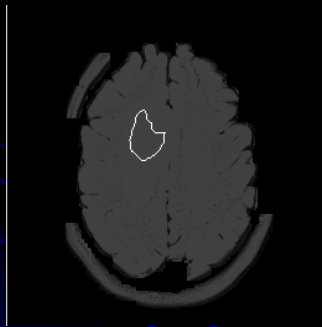- 3D photography/mapping (Google's street view)

Term Projects

- Requirements
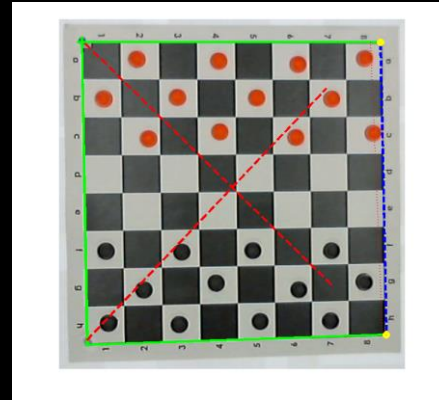 - Interesting to you
  - Need to be able to get data
- Teams of 4
- Each person email me a topic (1 annotated slide, with >= 1 reference) by next Wednesday 11:00 pm
- Form a team in advance → save yourself work!
  - You need only submit **1 proposal per pre-formed team**.
  - Will give a 2-minute, 1-slide "lightning talk" on Thursday
  - You will choose a project & team by the end of class.

Process

- What interests you, either in the list or on your own?
  - Be creative!
  - Dig some
  - Talk to me
    - Consult the literature (at least 1 reference initially)
- Consider who you want to work with
  - Is people or topic more important to you?
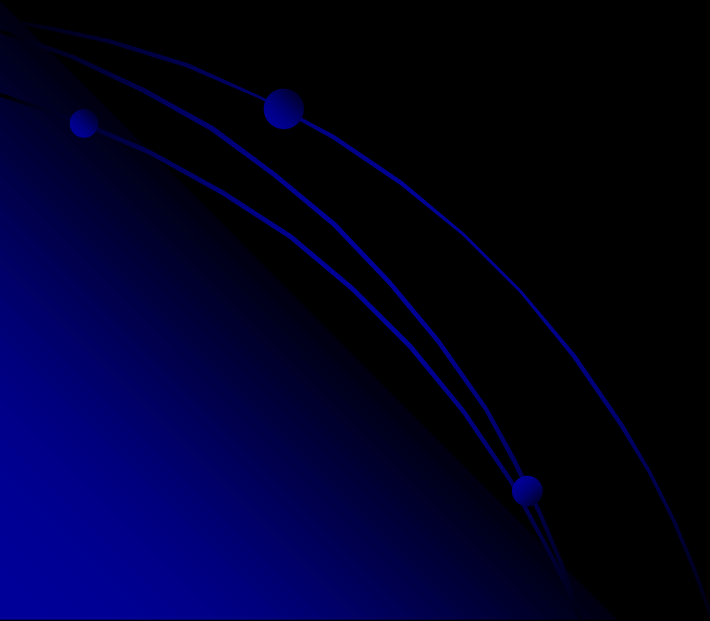- You will self-organize in class

Some projects, 2012-2013

- Brain Tumors
- Paint by Numbers
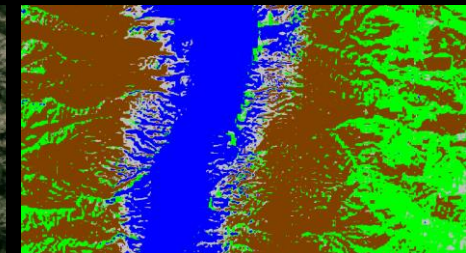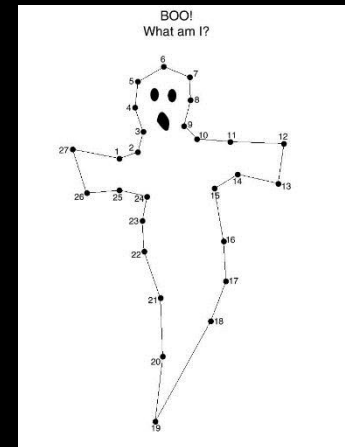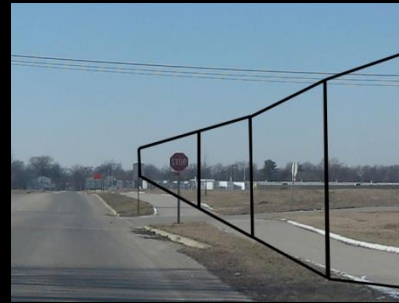- Vision for Chess AI
- Photomosaic

Projects, 2010-11

- Bejewelled AI
- Gesture-controlled mouse (very cool!)
- Smart Board figure detector
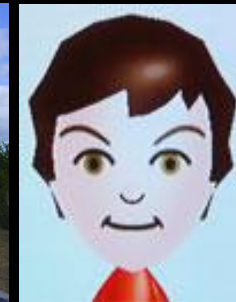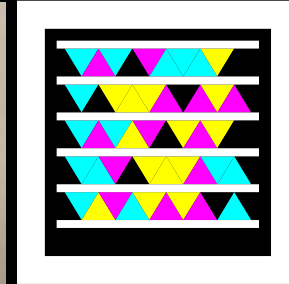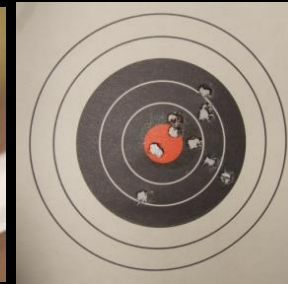- Visual servoing for Rovio robot (senior project)

Past projects, 2009-10

- Road-sign detection
- License-plate detection
- Recognizing Constellations
- IGVC Obstacle and Line Detection
- Connect the Dots
- Geographic Feature Extraction from Satellite Images

Past projects, 2008-09

- Tennis-ball tracker in video (in OpenCV, not MATLAB)
- Projectile Hole Recognition
  - For senior project
- High-capacity color barcodes
- Road location from frontal view
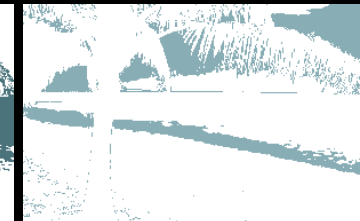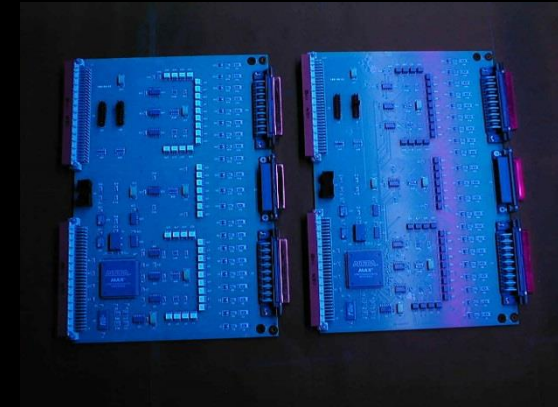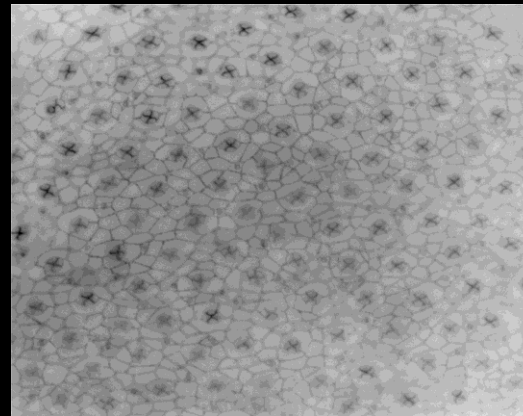- Towards automatic generation of *Mii*s from photos

Past projects, 2007-08

- Handwritten digit recognition for Tablet PC
- ID'ing the goal and ball in RoboCup
- Playing Card ID system
- Salamander recognition (for biologists)
- **Talk show recognition from video stills (presented at ASEE conference)**
- NEAT Face Detection
- Towards Object Recognition, using OpenCV and real-time videos
- Painting genre classifier

Past projects, 2006-07

- Spot the differences
- Connect the dots (digit recognition)
- Counting cells in fly retinas
- Gesture recognition
- Conformal coating misapplication detection
- Automated image region tagging

Past projects, 2005-06

- Where's Waldo?
- Face recognition in video
- Iris detection
- Sport classification
- Eigenfaces
- Aircraft detection in aerial images
- Baesler's shopping cart surveillance